

Perspectives in Veterinary Medicine

One Health Comes of Age

By Dr. Donald F. Smith

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Almost anywhere you go today in organized veterinary medicine, academia and even animal health industry, the words 'one health' are heard. The most recent One Health concept was the signature initiative of Dr. Roger Mahr during his AVMA presidency in 2006-07. He challenged the veterinary profession to assert greater involvement in what scientists and regulatory officials were warning was the growing threat of zoonotic diseases such as avian flu and West Nile virus. These emerging infectious diseases were erupting with greater frequency and virulence in the US and around the world.



Dr. Roger Mahr, President of American Veterinary Medical Association 2006-07
(Photo provided by AVMA)

The concept is not new, however. "One Health" or "One Medicine" was a focus of physicians like William Osler (Johns Hopkins) and veterinarians like James Law (Cornell) in the 19th century. While physicians became less engaged in the potential spread of diseases between animals and people in the last 75 years, as the development of clinical specialties changed the focus from the health of populations of people to that of the individual, veterinarians James Steele and Calvin Schwabe urged the veterinary and comparative medical world to consider all species within a common biological framework.

As a result of President Mahr's leadership, a One Health Commission¹ was established and has morphed from a strategic alliance between Iowa State University (ISU) and the ISU One Health Consortium into a One Health Consortium. Though it has a broader sweep into health issues of people, domestic animals, wildlife and the environment, the Consortium's principal effort is to promote the understanding, prevention and treatment of zoonotic diseases. This becomes more important as the number and virulence of pathogenic organisms is growing and as the global travel of people, food components, and the movement of animals is increasing.

Zoonotic diseases continue to represent the most commonly identified component of One Health, but let us be clear that it is only one of three components. Each of the other two is becoming increasingly relevant in the modern age of comparative medicine and human health, and could each have an important impact on the future of veterinary medicine, including expansion of the veterinary workforce.

A second component of One Health is **comparative medicine**, the realization that animals are also afflicted by many of the diseases and conditions that affect people. This was considered so important in the early days of veterinary education that at least two veterinary colleges, McGill University in Montreal and Columbia University in New York, were actually referred to as *colleges of comparative medicine*. A recent book called *Zoobiquity* provides several interesting examples of comparative medicine.² In the emerging age of the genome, the role of comparative medicine—or zoobiquity, for those who prefer that term—has enormous potential for human medicine. Veterinarians, with their broad comparative medical education, are well suited to have a major impact in this field.

The third element of One Health, with huge potential for the future of veterinary medicine, relates to the ways in which pets and other animals actually promote human health. I strongly agree with veterinarian Kate Hodgson who refers to this as **zooevia**—essentially the positive inverse of zoonosis³—and asserts that is an essential component of One Health as she explains in her 2011 article in the *Canadian Veterinary Journal*.⁴

A growing body of research is documenting the potential improvement of the physical, social, emotional and mental health of people who share their homes and environments with pets. Whether walking your dog in the morning, riding your horse in the afternoon, or experiencing wild animals in their natural environment, animals improve the human condition. As these benefits to human health are measured, we have the potential to not just improve the quality of life for both people and animals, but also to reduce the cost burden of human health care. The mainstream press and the public are beginning to recognize the direct value of animals to human health and well-being.



Kate Hodgson, DVM, MHSc, CCMEP, Faculty of Medicine, University of Toronto
(Photo provided by Dr. Hodgson)

There are two critical steps to capitalize on the potential of zooeyia. They are (1) to validate through rigorous research the potential for animal interactions to reduce human health care costs; and, (2) support the collaboration of veterinarians with human care providers at all levels to promote human health and offer a less expensive alternative to conventional therapies.

I believe the concept of zooeyia could become the most exciting development in veterinary and human medicine in our generation. If properly managed, it can expand the veterinary medical workforce in numbers and in impact beyond anything we have seen since the development of specialty medicine 50 years ago.

Capturing the power of zooeyia provides a unique opportunity for veterinarian medicine to counter conventional wisdom that predicts a decline in the need for veterinarians, if we seize the opportunity to define and lead this One Health initiative. Our profession provides the ideal foundation for building upon this link between animals and human health.

¹ [One Health Commission](#)

² [Zoobiquity: What Animals Can Teach Us About Health and the Science of Healing](#), by Barbara Natterson-Horowitz and Kathryn Bowers (Random House, Inc, 2012).

³ [Zooeyia: An essential component of "One Health,"](#) by Kate Hodgson, Can Vet J 2011 February; 52(2): 189-191.

⁴ Ibid.

KEYWORDS:

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TOPIC:

One Health

ABOUT THE AUTHOR:

Dr. Donald F. Smith, Dean Emeritus of the Cornell University College of Veterinary Medicine, had a passion for the value of the history of veterinary medicine as a gateway for understanding the present and the future of the profession.

Throughout his many professional roles from professor of surgery, to Department Chair of Clinical Sciences, Associate Dean of Education and of Academic Programs and Dean, he spearheaded changes in curriculum, clinical services, diagnostic services and more. He was a diplomat of the American College of Veterinary Surgeons and a member of the National Academy of Practices. Most recently he played a major role in increasing the role of women in veterinary leadership.

Perspectives in Veterinary Medicine is one of his projects where he was able to share his vast knowledge of the profession.